

IMS's Memo on DDO Field
Operational/Info Security

ROUTING AND RECORD SHEET

SUBJECT: (Optional)

FROM:

Chief, Information Management Staff, DO

EXTENSION

NO.

OL 1-1948

DATE

TO: (Officer designation, room number, and building)

DATE

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FORWARDED

OFFICER'S INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

1.
Director of Logistics
2B20B Page

5-13-81

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DD/L

13 MAY 1981

— DD already has copy.

4.

~~Chief, Procurement Div./OL~~

5.

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FORM NO.
7-79

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DATE REC'D
5-12-81

DATE OUT

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CROSS REFERENCE OR
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FROM
SUBJ.DDA
Chief, IMS
DEO Field Operational/
Information Security
Program

N.C.

ROUTING

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cc: C/PD/OL

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ANSWERED

NO REPLY

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S E C R E T

DDA Registry
181-0981

81-230

5 MAY 1981

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MEMORANDUM FOR: Deputy Director for Administration
THROUGH: Acting Deputy Director for Operations
Comptroller
FROM: William F. Donnelly [redacted] 25X1
Chief, Information Management Staff
SUBJECT: DDO Field Operational/Information Security Program [redacted] 25X1

1. For the past several years the Directorate of Operations has been actively working on a program to improve information security at the DO field facilities. [redacted]

All of these measures have been effective in enhancing information security in the field and in forming the foundation for the capstone of the program - the automated "paperless office". The (almost) paperless office will permit the establishment of rigorous controls over information flow. It will improve protection against the loss of classified information to hostile forces in crisis situations, because electronic files can be more rapidly destroyed in an emergency. In addition to enhancing information security, the almost paperless office will result in increased efficiency and effectiveness at DO field facilities. The labor intensive functions of document preparation, handling, reproduction, filing, and distribution will be electronically supported and thus easier to perform and less time consuming. Similarly, the retrieval of information will be faster and the presentation of information will be in a form tailored to specific field station needs. [redacted] 25X1

2. We have been pursuing this program, called CRAFT, since 1977. Requirement definition studies have been conducted; installation, maintenance, and operations planning have been initiated; development and implementation of four testbed systems (3 in the U.S. and 1 overseas) have been accomplished; coordination with the Department of State, which is working on a similar effort, has been effected; and hardware and software systems have been evaluated and analyzed in order to stay abreast of technological advancements. (CRAFT will use off-the-shelf equipment to avoid long, resource-consuming and expensive R&D efforts.) [redacted] 25X1

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S E C R E T

3. Our requirements definition studies and experience with the testbed systems have resulted in the identification of functional requirements in five categories.

A. Full Text Document Electronic Storage and Retrieval

To provide better information control and facilitate the rapid destruction of field information holdings in the paperless office environment, a capability must be provided to support the electronic storage, retrieval, and display of incoming and outgoing documents. The document storage process must provide for initial document review; entry of intra-Station routing information, action indicators and general comments; generation of indexing information; and the filing of the document into one or more files. The filing system must support multiple files which are logically and physically separate. For files that are separated only logically, the system will store only a single copy of the document, but the document must appear to the user to be contained in each uniquely named file to which the document is indexed. Automatic and user-initiated document purge by file and by system must be provided. Document purge will also include appropriate document-index updates. The document retrieval process must facilitate retrieval by document number, addressee, subject, date, and/or substance (key word, key phrase, etc.). Further, a scrolling capability must be provided for file browsing.

B. Electronic Mail Distribution

The system must provide the capability for the electronic routing of documents to and from the central storage facility under the control of the master terminal. The system must also support distribution of documents to multiple addresses and include a broadcast capability. For security reasons distribution must be on an end-user demand basis. Workstation-to-workstation communication (via the central storage facility) must also be provided.

C. Word Processing

This capability is needed to provide a mechanism for source data automation of the documents prepared at the field facility. The specific features that must be supported are:

- (1) Page - Forward or backward movement through a file of text, one screen at a time.

- (2) Scroll - Forward or backward movement through a file of text, one line at a time.
- (3) Insert - Inserting text in an existing line; preexisting text will be separated in the designated position to make room.
- (4) Change - Overtyping existing text with new characters.
- (5) Delete - Eliminating characters, words, lines.
- (6) Move - Relocate or copy a defined block of text from one location to another within the file.
- (7) Line-Number - The ability to number lines.
- (8) Print or Display Formatting - A file or a full screen of text may be displayed or printed. Formatting for files will consist of defining editor formats (e.g., lines-per-page, double-space, margin sizes, right-justification, etc.), if desired.

D. Data Processing

Since all current field paper systems cannot be adequately supported by a text processing capability, data processing is required to handle field index systems (biographic, code-word, hostile installation, surveillance vehicles, covert communications, etc.), administrative systems (finance, logistics, personnel, etc.), and special periodic reporting requirements on operational activities.

E. Communications Interface

To close the loop on the paperless office, a mechanism is required that will facilitate the processing of incoming and outgoing message traffic in electronic form between the Station communications center and the information handling system. This interface must of necessity be either electrical or media (floppy disks, paper tape, etc.) in nature.



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4. To comply with existing Agency policy as well as to meet program objectives and field station requirements, the selected system must have the following characteristics and features. (A summary of system requirements is provided at Annex A.)

- . Fully NACSEM 5100 (TEMPEST) certified to protect against the emanation of compromising signals.
- . A high degree of reliability to ensure that the MTBF coupled with on-site redundant hardware and spare parts and area float equipment will result in a 99.9% system availability. (NOTE: Office of Communication will provide on-site and depot maintenance support. Contractor involvement will be limited to repair and return of plug board components and major end-item equipment that has experienced catastrophic failure.)
- . The system must be compact and modular to permit installation in minimal space available in the DO field facilities and to allow for growth as requirements expand.
- . The system must be secure. At a minimum, the system and file access must be under password control and data compartmentation must be supported; a system activity log must be maintained; non-removable memory must be volatile; magnetic disk units must be removable and easily degaussable (this eliminates the "sealed" disk unit technology); and an emergency disk destruction capability must be provided.
- . For maintenance, spares, software, and operating supply efficiencies, standard, single family systems are required.
- . The system must be "user-friendly" since the majority of field personnel will not be technically oriented.
- . The system must be programmable to support the specific field processing requirements outlined in the previous paragraph.

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5. As part of the project planning effort, IMS has been reviewing, analyzing, and testing various hardware configurations to determine the feasibility of obtaining an off-the-shelf system to support the project requirements. In the testbeds, VYDEC, Honeywell, and Delta Data products have been employed, and hands-on testing of the WANG, Lexitron, and Lanier product lines has been performed. None of these systems has been totally responsive to the requirements. As can be seen from the attached market survey (Annex B), there is no single manufacturer that is yet capable of meeting all of the project needs. Digital Equipment Corporation (DEC) and WANG are the only two vendors that can, or currently plan to, provide a majority of the system features required. The two areas in which DEC does not meet IMS specifications (i.e., up to 24 simultaneous workstations and magnetic tape back-up capability) could probably be remedied, but total systems capabilities planned, according to DEC, are 2 to 3 years in the future. All essential

short-comings of WANG will be eliminated with its announcement of the TEMPEST Office Information System (OIS) MDL 140, currently scheduled for February 1982.

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6. An extensive investigation of the WANG systems has been performed as the result of pressures from Congress, the Intelligence Community Staff, and senior Agency management to standardize with the overseas automation efforts of the Department of State. Through a joint Agency/State Working Group that was established in September 1980, it has been determined that it would be both feasible and beneficial for the two organizations to use the same family of equipment.

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7. As mentioned above, IMS believes (based upon discussion with WANG and the Department of State) that with the production of the TEMPEST OIS Model 140 scheduled for February 1982, WANG will meet the basic project requirements. This is not to imply that WANG will be all things to all people. For example, in the area of communications WANG will not have an effective interface for the Agency communications system, which will require work on the part of IMS and the Office of Communications. Although WANG's interactive terminal capability is acceptable, it is not the most desirable. In the area of security, it is not clear that the WANG security software package will contain all of the features desired. The essentials will be there, but more work will undoubtedly be required in this area as well. Our final concern relates to total processing power for the larger stations; but we believe that the multiple WANG OIS cluster configuration will meet the need. IMS is aware of an organization that is currently processing non-numeric files with over 15 million characters of data on OIS Model 140 systems - this amount of data being representative of large Station files.

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8. In view of the near-term planned WANG capabilities and the apparent lack of other vendors that can satisfy the field requirements in a timely manner, coupled with the pressures and benefits to be derived in standardizing with the other federal agencies already committed to WANG overseas, it would be prudent and in the best interests of the Government to establish a sole-source contract with WANG. IMS therefore requests that a joint IMS/OL task

~~force be established to prepare the required documents to effect this arrangement with WANG. To be ready to expend anticipated FY-82 funds, all contract arrangements need to be concluded this fiscal year.~~ ☐

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☐
William F. Donnelly ☐

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Attachments: 2
As noted above

CONCUR:

☐
Comptroller

6 May 1981
Date

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APPROVED:

☐
Acting Deputy Director for Operations

5/5/81
Date

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☐
Deputy Director for Administration

6 May 1981
Date

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CIA Field Automation Requirements

I. GENERAL

All configurations used in support of the Agency's overseas automation project must

1. employ standard, single line hardware components and application software systems;
2. be modular;
3. be user friendly with menus and prompts to assist the non-ADP professional field officer in the use of the system;
4. be compatible with Headquarters based computer systems to facilitate interaction and data exchange between the field and Headquarters;
5. employ a work station that will function with either the field or Headquarters configurations.

II. FUNCTIONAL SUPPORT REQUIREMENTS

A. Word Processing

1. Text edit functions to include insert, delete, move, copy, justify (by keystroke) characters, words, lines, paragraphs, and sections.
2. Input, edit, and output by document (not page), including pagination without user entered form feeds.
3. Search for and change character strings throughout a document or file of documents.
4. Pre-defined formatted screens for input.
5. Programmable function keys to allow short keystroke use of common text and functions.

B. Document Storage and Retrieval

1. Logical storage of documents in one or more files.
2. Retrievable by multiple, user specified, sections of the document.
3. Boolean logic capability for document retrieval.
4. Manipulation of incoming, outgoing, and stored documents.
5. Forward and backward paging through a retrieved document.
6. Deletion of multiple number of documents by criteria such as document date.
7. Document annotation.

C. Electronic Mail

1. Creation and editing of permanent distribution lists.
2. Automatic index of incoming queue for review by receiver.
3. Automatic confirmation of receipt.
4. Logical distribution of documents into user queues.
5. Schedulable automatic distribution to user.
6. Non-scheduled priority distribution at operator request.
7. Multi-point document distribution.

D. Data Management System

1. Formatted screen to support data input and output.

2. Query language with Boolean logic including a "contains" verb for character by character search.
3. Data validation, including table lookup, during input.
4. Exec language that allows individual tailoring of system functions.
5. Flexible report generation

E. Data Processing

1. Security system that provides read and write password protection on all functions, documents, and files.
2. Multi-Key ascending and descending sort.
3. File and volume utilities which provide create, delete, rename, and list functions.
4. High level programming language which allows manipulation of all file types on the system.
5. Workstation to workstation message communication.

- F. Comprehensive system security capability to support requirements set forth in the "Security Requirements for Automated Information Systems located in Overseas Installations."

III SYSTEM REQUIREMENTS

A. General

1. All System components TEMPEST certified.
2. Size, sound, and power compatible with the office environment.
3. Hardware architecture to facilitate least replaceable unit (LRU) maintenance.

5. Operate on either 50 or 60 cycle power, between 110-220 volts.
6. Operate between 50 to 90 degrees Fahrenheit at 20 to 80% relative humidity.
7. Workstations
 - a. Screen display size - 80x24, horizontal scroll to 132.
 - b. Screen display buffer - 8k bytes.
 - c. Locally programmable - 128k bytes or automatic paging.
 - d. Software trap and test on all keys.
 - e. Functions keys that can be loaded under program control.
 - f. Numeric key pad and cursor control keys.
 - g. Telecommunications options to allow use as an interactive terminal with remote host.
 - h. Multiple ports for connections with disk drives and printers.
 - i. Alternate character sets.
 - j. Support software required to implement all systems outlined in the functional requirements.
8. Disk/Diskette Storage
 - a. Removable media.
 - b. Media of common design to allow multiple suppliers.
 - c. Sharable by more than one processor or workstation.
 - d. Nonsealed disk packs.

9. Printer

- a. Impact type printing.
- b. Letter quality output on bond paper.
- c. Multiple fonts to include OCR-A and foreign alphabets.
- d. Printing speed of at least 40 CPS.
- e. Single sheet or form feed.
- f. Print width of 132 characters.

10. Central Processor

- a. Main memory sufficient to support multiprogramming of functional software and up to 24 simultaneous users.
- b. Able to support software required to implement all systems outlined in the functional support requirements.

B. Small Configuration

- 1. Disk Drives - sharable by all workstations. Multiple drives per configuration required for redundancy. Online capacity up to 80 MB each.
- 2. Printer - Two devices sharable by all workstations.
- 3. Workstations - 2 to 6.

C. Medium Configuration

- 1. Disk Drives - sharable by all workstations. Multiple devices per configuration required for redundancy. Online capacity up to 160 MB each.
- 2. Printer - 2 to 3 sharable by all workstations.
- 3. Workstations - 7 to 12.

D. Large Configuration

1. Disk Drives - sharable by all workstations. Multiple devices per configuration to provide redundancy. Online capacity up to 600 MB.
- B. Printer - up to 4 shared among workstations.
- C. Workstations - 12 to 24.

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TABLE I

Names of Corporations surveyed who currently market Office Information Systems:

Basic Four
7927 Jones Branch Drive Suite 100N
McLean, Virginia 22101
Telephone 734-2960

Burroughs Corporation [REDACTED]
Office Automation Division
1300 North 17th Street, Suite 1000
Arlington, Virginia 22209
Telephone 558-5622

25X1

Compucorp
Omega Information Systems
6819 Tennyson Drive
McLean, Virginia 22101
Telephone 821-1260

CPT Corporation [REDACTED]
-1010 Wisconsin Avenue
Washington D.C.
Telephone 337-2607

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Digital Equipment Corporation [REDACTED]
8301 Professional Place
Landover, Maryland 20785
Telephone 459-7900

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Hazeltine [REDACTED]
1725 Jefferson Davis Highway
Arlington, Virginia
Telephone 892-1800

25X1

IBM Corporation [REDACTED]
10401 Fernwood Road
Bethesda, Maryland 20034
Telephone 897-4438

25X1

Lanier [REDACTED]
3900 North Fairfax Drive
Arlington, Virginia
Telephone 558-8400

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Lexitron [REDACTED]
1700 North Moore Street
Arlington, Virginia 22209
Telephone 522-6060

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ATTACHMENT 2

TABLE I (cont.)

NBI Incorporated [redacted]
1901 North Moore Street
Arlington, Virginia 22209
Telephone 522-6515

25X1

Olivetti [redacted]
1768 Old Meadow Road
McLean, Virginia 22101
Telephone 356-0420

25X1

Wang Laboratories
1300 North 17th Street
Rosslyn Virginia 22209

Xerox [redacted]
1616 North Fort Myer Drive
Arlington, Virginia 22209
Telephone 527-6400

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Some of the above companies are compiling further references of their Office Information System installations. These references will be on file in GA20 Hqs. and will be made available as they are received.

ATTACHMENT 2

TABLE II

Corporations surveyed who now have Office Information Systems with distributed processing capability:

- °Digital Equipment Corporation
- °Hazeltime
- °IBM Corporation
- °Lanier
- °Lexitron
- °Wang Laboratories
- °Xerox

TABLE III

Partial listing of current users of above named systems:

Digital Equipment Corporation

Central Intelligence Agency

IBM Corporation (5520 System) (20 systems currently installed)

- Nuclear Regulatory Commission 25X1
- Bethesda, District of Columbia, and Atlanta
- Justice Department
- New York, District of Columbia
- Department of Agriculture (Food and Nutrition)
- Navy (Norfolk Navy Shipyard)

Lanier

- Department of Agriculture
- Navy, Bureau of Personnel

Lexitron

- U.S. Postal Service

Wang Laboratories

- Department of State
- Justice Department

Xerox

- Defense Intelligence Agency
- DOD Army